REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 3 has been cancelled, while claims 1 and 7 have been amended to include the limitations of cancelled claim 3. In addition, the claims have been amended for clarity.

The Examiner has rejected claims 1-3, 7-9, 12 and 13 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,927,681 to Chikuma. The Examiner has further rejected claims 1-3, 5-9 and 11-13 under 35 U.S.C. 102b) as being anticipated by U.S. Patent 5,591,501 to Ovshinsky et al. In addition, the Examiner has rejected claim 1 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,788,097 to Ohara et al. Furthermore, the Examiner has rejected claim 1 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,206,665 to Kawade et al. Moreover, the Examiner has rejected claim 1 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,188,923 to Ahn et al. In addition to the above, the Examiner has rejected claims 4 and 10 under 35 U.S.C. 103(a) as being unpatentable over Ovshinsky et al.

The Chikuma patent discloses an optical information recording medium providing reflected light at two different wavelengths, in which recesses are formed in a transparent substrate, these recesses being filled with a light emitting material which, when illuminated by a light beam having a particular wavelength, the light emitting material emits light having a different wavelength.

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The subject invention, as claimed, includes an active layer. As described in the specification on page 1, lines 28-28, an active layer is one in which information can be stored (coded) and changed. Further, on page 5, lines 1-7, the active layer is described as a recording dye layer or an inorganic phase change layer, in which a property of the layer is changed to indicate a bit value.

Applicant submit that Chikuma neither discloses nor suggests such an active layer. Instead, Chikuma discloses recesses being filled with light-emitting material, in which the size of the recesses determines the value of the data. There is no disclosure of changing a property of the light-emitting material in order to record data. As such, the light-emitting material cannot be considered the "active layer" of the subject invention.

The Ovshinsky et al. patent discloses an optical recording medium having a plurality of discrete phase change data recording points, in which phase change material is inserted into recesses

formed in a substrate. As noted at col. 4, lines 15-18, "The cavities are aligned in linear or curvilinear tracks on the substrate and the data storage sites may be tracked by the use of a technique known in the art as "sampled servo tracking".

Applicants submit that without more, one can only presume that the cavities are formed in a one-dimensional array, i.e., in a line along the linear tracks. However, in the subject invention, as claimed, "the pre-determined pattern comprises a two-dimensional strip of bit positions in each track". This is not a trivial limitation in that, as described in the specification on page 2, line 29 to page 3, line 13, a two-dimensional strip of bit positions in each track affords a much increased storage density.

The Ohara et al. patent discloses an information recording medium, in which low melting metal is deposited in the form of islands on a substrate.

As with Ovshinsky et al., Applicants submit that without more, one can only presume that the metal islands are formed in a one-dimensional array, i.e., in a line along the linear tracks. However, in the subject invention, as claimed, "the pre-determined pattern comprises a two-dimensional strip of bit positions in each track". This is not a trivial limitation in that, as described in the specification on page 2, line 29 to page 3, line 13, a two-dimensional strip of bit positions in each track affords a much increased storage density.

The Kawade et al. patent discloses a recoding medium, method for preparing the same, recording and reproducing device,

and recording, reproducing and erasing method by use of such recording medium, in which fine lone electrodes 4 are formed to desired sizes and shapes on a substrate.

Applicants submit, however, that Kawade et al. is not related to the optical storage and retrieval of information. In particular, as noted in Kawade et al. at col. 1, lines 10-13, the Kawade et al. invention relates to the recording, reproducing and erasing of information by use of a probe electrode. In optical storage and retrieval of information, a light beam is used to record, reproduce and erase information, Hence, Applicants submit that Kawade et al. is not related to the subject invention.

The Ahn et al. patent discloses optical storage media with discontinuous thin metallic films, in which a plurality of small sized islands of energy absorbing material are arranged on a substrate.

Applicants submit, however, that without more, one can only presume that the islands are formed in a one-dimensional array, i.e., in a line along the linear tracks. However, in the subject invention, as claimed, "the pre-determined pattern comprises a two-dimensional strip of bit positions in each track". This is not a trivial limitation in that, as described in the specification on page 2, line 29 to page 3, line 13, a two-dimensional strip of bit positions in each track affords a much increased storage density.

Claim 4 includes the limitation "the pre-determined pattern comprises an at least partial quasi-hexagonal or quasi-square pattern."

The Examiner indicates that Ovshinsky et al. "discloses an optical recording medium having cavities formed in a substrate which are filled with a recording material. it is recognized that the reference does not disclose square or hexagonal cavities. However, as the reference does disclose that the shapes of the cavities may be varied, it would have been obvious to one of ordinary skill in the art to use any known shape."

Applicants submit that the Examiner is misunderstanding the subject invention. The limitation of claim 4 does not relate to the shape of the active layer at each bit position, but rather, to the shape formed by the plurality of bit positions of the active layer in each track. Applicants refer the Examiner to Fig. 1B in the drawings, and the description thereof in the specification on page 4, lines 5-18.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1, 2 and 4-13, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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